

COLORADO'S FIRST ACCEPTED RECORD OF THE CAVE SWALLOW

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Colorado's first accepted record of a Cave Swallow (*Petrochelidon fulva*) involved an immature photographed at Prewitt Reservoir, Washington County, on 17 July 2013. The bird occurred amid this species' substantial range expansion and a complex, rapidly changing pattern of vagrancy in the United States and Canada over the last 50 years. Here we detail the species' colonization of the U.S. and summarize these patterns of vagrancy.

On 17 July 2013, Mlodinow, Andrew Core, and Sean Walters were walking across extensive mudflats at the western end of Prewitt Reservoir, Washington County. Approximately 400 swallows were feeding over the flats when Mlodinow noted an orange-throated swallow headed toward them. He alerted his companions, and both rapidly located the bird. It circled the observers for about 10 minutes, approaching as closely as 3 meters, often in excellent light. When the bird was farther away, it was easy to relocate among the Cliff Swallows (*P. pyrrhonota*) by its pale orange throat. We took several photographs identifying the bird as a Cave Swallow. The Colorado Bird Records Committee (CBRC) later accepted this record as the state's first (Faulkner 2014).

Leukering (2011) summarized five pre-2010 reports of the Cave Swallow from Colorado, including three single-observer sightings not submitted to the CBRC but likely representing correct identifications: Las Animas County, May 2003; Bent County, July 2005; and Pueblo County, September 2006. The two other reports include a bird that may have been a hybrid Cliff Swallow × Cave Swallow and one that was not accepted by the CBRC.

The shape and structure of the Cave Swallow we observed were much like those of a Cliff Swallow. The head sported a small orange patch on the forehead that was considerably darker than that of an adult Cliff Swallow but probably within range of young Cliff Swallows. The size of the forehead patch was consistent with that of an immature of either species. The throat was a medium orange that was distinctly paler than that of any Cliff Swallow present and was unmarred by dark (or light) markings. This orange went up onto the auriculars and blended into the collar, which transitioned to grayish on the hindneck. The demarcation between collar and back was fairly crisp. The crown was dull dark glossy blue, barely extending down to the eyes and curving sharply upward posterior to the eyes (Figure 1). The back and wings were dull glossy dark blue, without white streaking on the back. Thus both the head and back had already taken on the aspect of an adult. The rump was orange. The tail was dark and square. The white chest and belly blended into the sides, which were orange-buff mixed with dusky. The undertail coverts were washed in orange-buff and had very limited markings, seemingly restricted to a couple narrow dusky smudges on the outermost posterior undertail coverts. The small area of yellow at the gape is consistent with a recent fledgling.

The Colorado Cave Swallow had orange auriculars, inconsistent with any plumage of the Cliff Swallow. The throat of the Colorado bird was plain orange. In contrast, by the time a Cliff Swallow acquires back and crown plumage resembling that of an adult (as in the Colorado bird), the throat should have dark smudging resembling, or starting to resemble, that of an adult. Similarly, the background color of the throat should be a darker orange than that of the Colorado bird. The Colorado bird had a narrow cap that did not extend much behind the eye, unlike the more extensive cap

NOTES

of a Cliff Swallow. Finally, the more lightly marked undertail coverts of this bird are typical of a Cave Swallow and would be unusual for a Cliff Swallow (Leukering 2011).

Cave Swallows in the United States and Canada consist of two subspecies, *P. f. fulva* from the West Indies and *P. f. pallida* from northern Mexico (Phillips 1986). Though *fulva* was first recorded in the U.S. in Florida in 1890 (Scott 1890), it was not noted breeding there until 1987 (Smith et al. 1988) and has not subsequently expanded its breeding range beyond Dade County (Strickler and West 2011). The first record from the western U.S. was of *pallida* in Texas in 1910 (Bishop 1910), with the first breeding records coming from Kerr County on the Edwards Plateau in 1914 (Thayer 1914) and New Mexico's Guadalupe Mountains in 1930 (Johnson 1960). Subsequently, the New Mexico population has expanded only slightly (Strickler and West 2011), while the Texas population has expanded greatly (Kosciuch et al. 2006).

As of 1956, the Texas breeding range of the Cave Swallow was still limited to Kerr County (Selander and Baker 1957), but by 1966, the species bred in seven counties, occupying a range of nearly 26,000 km² (Kosciuch et al. 2006). By 1970, the breeding range was ~80,000 km², increasing to ~140,000 km² in 1980 and ~191,000 km² in 1990 (Kosciuch et al. 2006). Much of this range expansion was to the north and west, but in the 1990s, Cave Swallows also spread northeast, with a total range of almost 259,000 km² by 1999 (Kosciuch et al. 2006). This rapid increase in range is likely largely due to Cave Swallows adapting to the use of bridges and culverts (Martin and Martin 1978). The breeding population of *P. f. pallida* now extends from southeastern New Mexico through the Edwards Plateau north to Comanche and Kiowa counties, Oklahoma (first Oklahoma breeding record in 2011; J. Gryzbowski pers. comm.) and east to southwestern Louisiana (first Louisiana breeding record in 1997; Cardiff 1997).

A species with an increasing population or breeding range should produce more vagrants, a correlation demonstrated by Patten and Marantz (1996) and Veit (2000). Vagrancy of Cave Swallows in the United States and Canada nicely parallels the range expansion detailed above, with two records of vagrants in the 1960s, six in the 1970s, 21 in the 1980s, and 36 from 1990 to 1998, the vast majority along the coast of the Gulf of Mexico from eastern Louisiana to Florida and the Atlantic coast from North Carolina to Nova Scotia (McNair and Post 2001). Late fall (principally November) incursions into the Great Lakes and Atlantic coast regions have been frequent since 1999 (Curry and McLaughlin 2000, Brinkley 2011). These events are linked to powerful cold fronts that are preceded by strong southwesterly winds that sweep across Texas (and often northern Mexico) and northeast toward the Great Lakes and Atlantic coast from southern Canada to New Jersey. Such pulses are often followed by records to the south, with some birds found during winter in the southeastern United States (Brinkley and Lehman 2003, Brinkley 2011). These movements can be massive, with 1000+ birds estimated in New York alone during November 2005 (Spahn and Tetlow 2006).

Vagrant Cave Swallows to the west and due north of Texas have been far scarcer. West of Arkansas and Minnesota and east of the Rocky Mountains, the first was noted in late May 1991 in Garden County, Nebraska (Brown and Brown 1992). There were just two additional records of vagrants during the 1990s, both from Nebraska: late June 1995 and early July 1998 (Brogie 1998, Sharpe et al. 2001). Subsequent records from Nebraska are from July 2003 (Silcock 2003) and mid-May 2004 (Silcock 2004), while Oklahoma's first record was of four in Tillman County in July 2001 (Grzybowski and Fazio 2004). The species was not recorded again in Oklahoma until 2009 and 2010 when groups of 30 or more were found in September in southwestern Oklahoma (V. W. Fazio and J. A. Grzybowski pers. comm.), not far from locations of current breeding. As of December 2014, the Oklahoma Bird Records Committee had not accepted a record of Cave Swallow from northern Oklahoma (J. A. Grzybowski pers. comm.) The first Kansas record of the Cave Swallow came from Barton County during July 2001, with probable nesting noted there in 2009

NOTES



Figure 1. Cave Swallow at Prewitt Reservoir, Colorado, 17 July 2013. Note the throat unmarred by dusky (or white) markings, the shape of the dark crown (diagnostic of the Cave Swallow), and lightly marked undertail coverts.

(Thompson et al. 2011). In total, Kansas has nine accepted records, six between 14 July and 2 August (Kansas Bird Records Committee 2013). The other three records include a pair building a nest and later found in the company of two juveniles from late May to late July, a single bird in early June, and another in late September. Only one record is from eastern Kansas, of a bird found in July.

West of the Rocky Mountains, the earliest records involved one or more Cave Swallows at a Cliff Swallow colony in Tucson, Arizona, from 1979 through 1987 (Rosenberg and Witzeman 1999), with a pair raising young there in 1983 (Huels 1984). Otherwise, Arizona has six records across the southern part of the state (Rosenberg and Witzeman 1999, Rosenberg et al. 2007, 2009, Arizona Field Ornithologists files), in August (2), October (1), and December (3), with four of them since 2003. Since 1987, California has accumulated ten records, December–August, all from Imperial County in the state’s southeastern corner, and all but four since 2008 (California Bird Records Committee 2007; www.californiabirds.org/cbrc_book/update.pdf). Finally, one truly exceptional record is of a Cave Swallow well photographed at Iona Island, near Vancouver, British Columbia, in November 2012 (Levesque et al. 2015).

Our Colorado observation thus fits the pattern of vagrancy on the Great Plains, where records are concentrated from May to July. This pattern differs substantially from that elsewhere in North America. Vagrancy to the Atlantic coast and Great Lakes occurs mostly in late fall, to a lesser extent in spring. West of the Rocky Mountains, the few records are scattered throughout the year.

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NOTES

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Cave Swallow

Drawing by George C. West